

SECTION IV – STREETS

IV-1. DESIGN GUIDELINES:

Minimum right-of-way widths shall be as set out in these Standards and Specifications, for the class of street under consideration. When a new street is being designed to an existing street; the right-of-way of the new portion shall not be less but may be more than the existing right-of-way, as required by the City Engineer. Right-of-way requirements for widening at intersections shall be as shown in the Standards or as approved by the City Engineer.

A. Classes of Road or Streets

1. **Arterial Roads or Streets** - An arterial road or street (with min. centerline radius of 1,000 ft.) is one which is or will be used primarily to enable traffic to move to and from minor roads or streets and arterial roads or streets (See Standard Drawing No. **A-1 & A-2**). The Traffic Circulation Plan of the adopted General Plan will identify the required arterial roads within the City. The City Engineer will determine whether a median will be required.
2. **Collector** - A collector road or street (with min. centerline radius of 300 ft.) is one that is or will be used primarily to enable traffic to move to and from minor roads or streets and arterial roads or streets. (See Standard Drawing No. **A-3**)
3. **Industrial Street** - The Industrial Street standard shall be used where adjacent properties are zoned industrial or where development plan approval specifies the use of said section. (See Standard Drawing No. **A-4**)
4. **Local or Cul-de-sac Street** - A minor road or street (with min. centerline radius of 250 ft.) is one which is or will be used primarily for access to abutting property. (See Standard Drawings No. **A-5**)
5. **Non-traditional Local or Cul-de-sac Street** - A written request must be submitted with reasons stating why this alternative street section is proposed. (See Standard Drawing No. **A-6**). Based upon the justification submitted, the City Engineer may approve such a request.
6. **Rural Street** - Typically only those areas which are zoned R1-B3, B4 or B5R-A, will be allowed to use the rural street section (See Standard Drawing No. **A-7**). In addition, the City Council and/or Planning Commission will give final approval for use of this standard.
7. **Hillside** - The reduced specifications for Hillside Streets (with min. centerline radius of 250 ft.) may be used when permitted by Planning Commission and/or City Council. Two standard sections may be used: 1) areas where the original ground is 15-24% cross slope and 2) areas with cross slope 25% or greater.
8. **Other** - Other street sections are also available for use. See Standard Drawings **A-11, A-12 and A-13**.
9. The City Council has allowed the following tracts to be exempted from installing improvements:

- a. **Orchard Bungalow** (all streets, except the public streets which are: Shannon Hill Drive, Walnut Drive from Creston Road to Shannon Hill, Tanner Drive and Palm Court).
- b. **Tract 95** (all streets which are: Glen Court Drive, Highland Park Drive and Fairview Place).
- c. **Tract 103** (all streets which are: Glencrest Lane, Crestline Drive, Vista Court, Fairview Lane, Sunset Drive and Panorama Drive).

B. Geometrics and Profiles

The following standards or the design of geometrics and profiles for proposed improvements shall govern the preparation of plans for such improvements:

1. Minimum Grades and Maximum Grades

- a. Preferred minimum grade on new streets shall be one percent (1%) with a minimum of 0.50% if approved by the City Engineer.
- b. Gutter grade of 0.50 percent (0.50%) may be allowed for the reconstruction of existing streets.
- c. New local streets may be designed up to a maximum grade of 15 percent (15%).
- d. New arterial and collector streets may be designed up to a maximum grade of 8 percent (8%) .

2. Minimum Cross Gradient

- a. Minimum cross sections slope on streets shall be 2.0 percent (2%).
- b. When two streets intersect, neither street shall have a grade greater than 3.0 percent for a minimum distance of 20 feet measured from the curb line of the intersected street, except as approved by City Engineer.
- c. Lengths of vertical curves shall be determined by design speed and difference in grades as outlined in "A Policy on Geometric Design Of Urban Highways", published by the American Association of State Highway and Traffic Officials.

- 3. Minimum Sight Distances** - The minimum stopping sight distances (as defined in Section 7-200 of the State, Planning Manual or Section 201 of the Highway Design Manual) over any segment of the roadway shall be 200 feet unless approval for variation is received from the Engineer. Standard Drawing A-14 shall be used to determine intersection sight distance requirements.

4. **Cross Gutters** - No cross gutters will be allowed across collector streets or arterial routes unless approved by the City Engineer.
5. **Curve Data** - The curve data for all centerline curves shall be computed and shown on the plans. The minimum radius of the property line on the exterior corner of all corner lots shall be 10 feet on minor streets and 20 feet on collector and arterial streets. The minimum radius of curb returns shall be 20 feet on minor streets and 30 feet on collector and arterial streets. See Standard Drawing A-15 for additional design information.
6. **Minimum Centerline** - Minimum centerline-to-centerline distances between streets intersecting another street shall be 150 feet.

C. Pavement Structure Section

Final street structure section shall be based on "R1" Value obtained in the field and shall be approved by the City Engineer. However, the base thickness shall always be 6-inch minimum.

D. Soils and Geological Report

A preliminary soils report and geotechnical report shall be submitted to substantiate road designs and/or lot stability, unless specifically waived by the City Engineer.

E. Preservation of Trees (See Municipal Code Chapter 10)

Trees are to be preserved as much as possible. All trees to be removed shall be shown on the grading plan. The Engineer may require additional trees to be removed for reasons of safety or maintenance. No Oak trees shall be removed unless written permission is obtained from the City Council unless the tree is dead or diseased beyond repair. (Ref. Oak Tree Preservation Ordinance, ORD 553). A dead or diseased tree may be removed only with a permit issued by the Engineering Division of the Department of Community Development.

A permit must be obtained through the Engineering Division for all Oak trees requested for removal - even those approved for removal by Council or by the Planning commission.

An Oak tree inventory shall be required for all subdivisions indicating location, size, dripline (to scale) and how each Oak tree will be impacted by the proposed grading and improvements. Concise and specific protection measures shall be part of the inventory report.

IV-2. MATERIALS

All materials furnished and the methods of performing any proposed work shall conform to and be done in accordance with the applicable portions of these Improvement Standards and Specifications of the City or if the method and materials are not completely set forth therein, the provisions of the State Specifications shall apply. Where a California Test Method is specified, it shall mean the one currently in use by the State.

A. Asphalt Concrete

Asphalt Concrete shall conform to the requirements for Type B Asphalt Concrete as specified in Section 39 of the State Specifications utilizing the 3/4 inch maximum aggregate, or 1/2 inch

maximum aggregate if approved by the Engineer. The completed surface should be sealed with a Fog Seal, the Fog Seal shall comply and be applied in accordance with Section 37-1 of the State Specifications, 0.10 gallon per square yard, #CSS 1-H.

B. Aggregate Base

Aggregate base shall be Class II and shall conform to the requirements of Section 26 of the State of California (CALTRANS) Standard Specifications.

C. Concrete

The type of concrete allowed to be used shall be for each specific use as outlined in Standard Drawing B-16.1, 16.2 and 16.3.

IV-3. CONSTRUCTION GUIDELINES

Unless otherwise modified in the following or approved by the Engineer, the roadbed shall be prepared and constructed in accordance with the applicable portions of the State Specifications.

A. Testing

1. Basement Soil

- a. Resistance factor "R" (State Stabilimeter Method) tests shall be made by the developer as required by the Engineer. The location of the tests within the area shall be selected so that an average "R" value may be determined for the entire development area. Location of the tests are to be determined in the field at completion of rough grading.
- b. Relative compaction tests shall be made by developer as required by Engineer on subgrade material and material placed within the street areas of the development as specified by the Engineer. Said tests will be made prior to placing the next layer of material.
- c. The City Engineer reserves the option to modify structural section as he/she deems necessary in accordance to the existing field conditions of the project area.

2. **Aggregate Bases** - Tests for aggregate bases shall be made by the developer as required by the Engineer on a minimum of two representative samples taken at the source from which material will be imported. The sample taken within 15 days prior to placing of either base or sub-base. Test results submitted shall indicate clearly the location of the source of material. Base material shall also be subject to testing as it is delivered to the job site in accordance with State Standards.

The work of furnishing, spreading and compacting the aggregate base shall be done in accordance with these specifications, the special provisions and the State of California Standard Specifications.

B. Temporary Improvements

The installation of temporary improvements for the winter "shutdown" in order to make building sites accessible will be approved on an individual basis, provided that it is expressly understood that such improvements are of a temporary nature only, and that they will be removed and replaced with permanent type improvements during the construction season immediately following the season in which the temporary installation was made. it shall be further understood that the approval of the installation of temporary improvements in no way obligates the City for any maintenance work.

When the paving of streets is to be only partially completed or at the end of initial construction of the ultimate development, a 2" x 6" redwood header shall be installed to protect all edges of the asphalt concrete pavement. The grading of the redwood timber shall be as specified in Section 57-2.02 of the State Specifications. Other materials may be substituted with approval of Engineer.

C. Erosion Control

Cut and fill slopes shall be planted as required by the Engineer and to the approval of the Engineer. (An erosion control plan shall be submitted when improvement plans are required.) The erosion control plan shall be approved by the City Engineer prior to any grading and provisions of said plan shall be in place between October 15th to April 15th in accordance with the Grading Ordinance.

D. Signing

1. **Temporary Signing** - All signs, signals, flares, barricades, or other warning devices necessary for the protection and convenience of the public during the construction phase and prior to final acceptance by the city shall be furnished, installed, and maintained by the Contractor. Signs and other traffic warning devices must be in accordance with the latest edition of the state of California "Manual Of Warning Signs, Lights, and Devices For Use In Performance Of Work Upon Highways".
2. **Permanent Barricades** - Where improvements only cover a portion of the ultimate improvement and where an improved street is proposed to be extended in the future, the improvements shall include a permanent type barricade at the end of surfacing of such a street to serve as a warning to the public. The barricade shall be constructed, erected, painted, and signed. (See Standard Drawing No. M-7).
3. **Sign Maintenance** - All existing City signs which will be disturbed by the work shall be removed, stored in upright position, and reset or maintained in place by the Contractor as directed by the Engineer. Any damage to such signs as a result of the work shall be paid for or replaced at the Contractor's expense. Stop signs shall be removed or relocated as directed by the Engineer. (See Standard Drawing No. M-6).

4. **Guardrails** - Guardrails shall be installed as required by the Engineer. They shall be designed in accordance with State Specifications except on designated scenic highways the rails shall be "KOR-Ten" steel, and the wooden posts shall be pressure treated and stained dark brown.
5. **Permanent Signing** - Permanent signs shall be installed in accordance with the "Manual of Uniform Traffic Control Devices" and as required by the City Engineer.

E. Survey Monuments

Survey monuments shall be provided at the following locations within an improvement:

1. Centerline of streets at intersections with other streets. (See Standard Drawing M-1).
2. At the beginning and end of curves on the street centerline. (See Standard Drawing M-1).
3. At all subdivision corners of the development and in such other locations as necessary so as to enable any lot or portion of the improvement to be retraced or located. A pipe at least 24" long and 1 1/2" minimum diameter shall be used. Section corner monuments shall be of Class "A" concrete, pre-cast or poured in place, with minimum dimensions of 4" x 4" x 24".
4. The Contractor is responsible for the protection or proper resetting of all existing monuments and other survey markers. Any survey monuments destroyed by the Contractor shall be replaced by a licensed Surveyor, at the Contractor's expense.
4. Permanent Benchmarks shall be set at 1,000' intervals, based on the 1929 USGS Datum.

IV-4. FINAL ACCEPTANCE

At the recommendation of the City Engineer, final acceptance will be given by the City Council.